Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) An apparatus for balancing a pressure differential across a bearing, comprising:

an impeller for producing a high pressure in a fluid, said impeller being mounted on a shaft;

the impeller having an upstream side and a downstream side;

a bearing housing on the downstream side of the impeller;

the bearing housing having an upstream side and a downstream side; and

a plurality of annular grooves on the downstream side of the impeller;

the plurality of annular grooves concentrically situated in relation to the shaft to control a flow of the high pressure fluid across the downstream side of the impeller.

2. (Currently amended) The apparatus of claim 1, wherein the shaft has a plurality of grooves on the shaft surface, the grooves being axially situated in relation to the shaft to control a flow of the high pressure fluid in a downstream direction.

3. (Currently amended) The apparatus of claim 1, wherein a labyrinth seal is situated on the downstream side of the bearing housing with a seal gap that controls flow of the high pressure fluid in a downstream direction.

4. (Canceled)

5. (Currently amended) An apparatus for balancing a pressure differential across a bearing, comprising:

an impeller on a shaft;

the impeller having an upstream side and a downstream side;

a bearing housing on the downstream side of the impeller;

a plurality of annular grooves on the downstream side of the impeller;

the plurality of annular grooves concentrically situated in relation to the shaft;

the shaft having a cylindrical outer surface; and

a plurality of grooves on the shaft axially situated in relation to the shaft.

6. (Original) The apparatus of claim 5, wherein the plurality of grooves on the shaft comprises three grooves.

7. (Original) The apparatus of claim 5, wherein the plurality of annular grooves on the downstream side of the impeller comprises three grooves.

8. (Currently amended) An apparatus for balancing a pressure differential across a bearing, comprising:

an impeller on a shaft;

the impeller having an upstream side and a downstream side;

a bearing housing on the downstream side of the impeller;

a plurality of annular grooves on the downstream side of the impeller;

the plurality of annular grooves concentrically situated in relation to the shaft;

the shaft having a cylindrical outer surface; and

a plurality of grooves on the shaft; ~~The apparatus of claim 5, further comprising~~

a fluid channel housing situated downstream from the bearing housing; and

a fluid channel traveling through the fluid channel housing.

9. (Original) The apparatus of claim 8, wherein a base of the fluid channel housing is situated just above the outer surface of the shaft.

10. (Currently amended) An apparatus for balancing a pressure differential across a bearing, comprising:

an impeller on a shaft;

the impeller having an upstream side and a downstream side;

a bearing housing on the downstream side of the impeller;

a plurality of annular grooves on the downstream side of the impeller;

the plurality of annular grooves concentrically situated in relation to the shaft; and

a labyrinth seal situated downstream from the bearing housing;

the labyrinth seal ~~including a plurality of discs~~ being positioned around the shaft with a seal gap adjacent the shaft, the gap being sufficient in size to permit flow of pressure balancing fluid therethrough .

11. (Currently amended) The apparatus of claim 10, wherein the labyrinth seal includes ~~four~~ a plurality of discs.

12. (Original) The apparatus of claim 10, wherein the plurality of annular grooves on the downstream side of the impeller comprises three grooves.

13. (Original) The apparatus of claim 10, wherein the shaft comprises aluminum.

14. (Original) The apparatus of claim 10, wherein the impeller comprises aluminum.

15. (Currently amended) An apparatus for balancing a pressure differential across a bearing, comprising:

an impeller on a shaft;

the impeller having an upstream side and a downstream side;

a bearing housing on the downstream side of the impeller;

a plurality of annular grooves on the downstream side of the impeller;

the plurality of annular grooves concentrically situated in relation to the shaft; and

a labyrinth seal situated downstream from the bearing housing;

the labyrinth seal including a plurality of discs ~~The apparatus of claim 10, further comprising~~

a fluid channel housing situated downstream from the bearing housing; and

a fluid channel traveling through the fluid channel housing.

16. (Original) The apparatus of claim 15, wherein a base of the fluid channel housing is situated just above the outer surface of the shaft.

17. (Canceled)

18. (Currently amended) A die cast aluminum compressor housing, comprising:

an impeller on a shaft; the shaft within a bore in a compressor housing;

the impeller having an upstream side and a downstream side;

a bearing housing on the downstream side of the impeller;

a plurality of annular grooves on the downstream side of the impeller;

the plurality of annular grooves concentrically situated in relation to the shaft;

the shaft having a cylindrical outer surface;

a plurality of grooves on the cylindrical outer surface of the shaft;

~~The apparatus of claim 17, further comprising~~ a fluid channel housing situated downstream from the bearing housing; and

a fluid channel traveling through the fluid channel housing.

19. (Original) The apparatus of claim 18, wherein a base of the fluid channel housing is situated just above the outer surface of the shaft.

20. (Currently amended) The die cast aluminum compressor housing of claim [17] 18, wherein the plurality of annular grooves on the downstream side of the impeller comprises three grooves.

21. (Currently amended) The die cast aluminum compressor housing of claim [17] 18, wherein the shaft comprises aluminum.

22. (Currently amended) The apparatus of claim [17] 18, wherein the plurality of grooves on the cylindrical outer surface of the shaft comprises three grooves.

23. (Currently amended) A method of balancing pressure within a compressor housing, comprising:

providing annular grooves on an impeller on a downstream side of the impeller to produce aerodynamic resistance to a flow of a compressed gas ;

rotating the impeller with a shaft;

positioning a bearing housing around the outer circumference of the shaft and downstream from the impeller; and

directing the aerodynamically resisted flow of the compressed gas to a downstream side of the bearing housing thereby counteracting a pressure differential across the bearing housing.

24. (Canceled)

25. (Currently amended) The method of claim 23, ~~wherein~~ which includes the further step of providing the shaft with ~~further comprises~~ a plurality of grooves.

26. (Currently amended) A method of balancing pressure within a compressor housing, comprising:

providing annular grooves on an impeller;

using a shaft to rotate the impeller;

positioning a bearing housing around the outer circumference of the shaft and downstream from the impeller;

positioning a labyrinth seal downstream from the bearing housing with a seal gap relative to the shaft; and

directing the aerodynamically resisted flow of the compressed gas to a downstream side of the bearing housing and through the seal gap thereby counteracting a pressure differential across the bearing housing.

27. (Original) The method of claim 26, wherein the plurality of annular grooves are on the downstream side of the impeller.

28. (Original) The method of claim 26, wherein the labyrinth seal comprises a plurality of discs.

29. (Original) The method of claim 28, wherein the plurality of discs comprises four discs.

30. (Currently amended) A method of compressing a gas without causing bearing lubricant leak, comprising:

flowing a compressed gas into a compressor housing;

applying aerodynamic resistance to the compressed gas; and

directing the compressed gas ~~through and~~ around a bearing to expose an upstream and a downstream side of the bearing to the compressed gas to preclude flow of the compressed gas through the bearing.; ~~and~~

~~directing the gas across an outer surface of a shaft~~.

31-32. (Canceled)

33. (New) The apparatus of claim 8 wherein the plurality of grooves on the shaft are axially situated in relation to the shaft.

34. (New) The apparatus of claim 33 wherein the plurality of grooves on the shaft comprises three grooves.

35. (New) The apparatus of claim 33 wherein the plurality of annular grooves on the downstream side of the impeller comprises three grooves.

36. (New) The apparatus of claim 15 wherein the labyrinth seal is positioned around the shaft with a seal gap adjacent the shaft, the gap being sufficient in size to permit flow of pressure balancing fluid therethrough .

37. (New) The apparatus of claim 36 wherein the labyrinth seal includes a plurality of discs.

38. (New) The apparatus of claim 36 wherein the plurality of annular grooves on the downstream side of the impeller comprises three grooves.

39. (New) The apparatus of claim 36 wherein the shaft comprises aluminum.

40. (New) The apparatus of claim 36 wherein the impeller comprises aluminum.